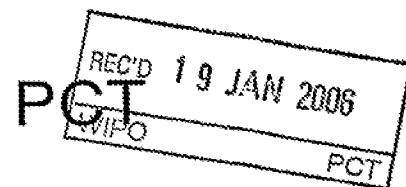


PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY



To:

see form PCT/ISA/220

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43bis.1)

Date of mailing
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference
see form PCT/ISA/220

FOR FURTHER ACTION
See paragraph 2 below

International application No.
PCT/EP2005/011010

International filing date (day/month/year)
11.10.2005

Priority date (day/month/year)
28.10.2004

International Patent Classification (IPC) or both national classification and IPC
G06T7/00, G06T5/00

Applicant
FOTONATION VISION LIMITED

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

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**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
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Box No. I Basis of the opinion

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
 - ☐ This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
 2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material:
 - ☐ a sequence listing
 - ☐ table(s) related to the sequence listing
 - b. format of material:
 - ☐ in written format
 - ☐ in computer readable form
 - c. time of filing/furnishing:
 - ☐ contained in the international application as filed.
 - ☐ filed together with the international application in computer readable form.
 - ☐ furnished subsequently to this Authority for the purposes of search.
 3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
 4. Additional comments:
-

**WRITTEN OPINION OF THE
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Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	1-26,28,30-32,46,50
	No: Claims	27,29,33-45,47-49,51-52
Inventive step (IS)	Yes: Claims	
	No: Claims	1-52
Industrial applicability (IA)	Yes: Claims	1-52
	No: Claims	

2. Citations and explanations

see separate sheet

Re Item V

**Reasoned statement with regard to novelty, inventive step or industrial applicability;
citations and explanations supporting such statement**

1 Reference is made to

D1: US2003/0142285 A1
D2: US2003/0095197 A1
D3: US2003/0044070 A1

2 Before discussing novelty/inventive step the following observations w.r.t. the clarity of the claims need to be made:

2.1 The present set of claims is not concise, due to the plurality of independent method claims 1 and 27 specifying different features, or apparently corresponding features in different terms. This also leads to a lack of clarity as to what the applicant considers to be the features necessary to the invention and how those features are to be defined. Thus the matter for which protection is sought is unclear.

2.2 The expressions "first/second/... acquired image" in the claims render the claimed subject matter unclear since they seemingly imply the idea of capturing multiple images. However, in actual fact, a single main image gets "acquired" (cf. Fig. 1(b)) and the different images (e.g. a subsampled copy of the main image, cf. claims 12 and 13) always result from processing the captured image. The terms "first/second acquired image" thus should be re-rendered as "capturing an image and obtaining a first/second image resulting from said captured image" - and they will be interpreted in this way in what follows.

2.3 The expression "b) analysing the first acquired image to provide a plurality of characteristics of an image" in claim 1 can be also interpreted as simply reading out the image capturing characteristics from a meta-file header stored in the image. In actual fact this line should imply "extraction of image characteristics through applying an image analysis prefilter to the image content" - and it will be interpreted accordingly in the following.

- 2.4 The expression "d) applying any such corrective processes" in claim 1 should actually read "d) applying any such determined corrective processes" because only those processes whose application is beneficial get executed - and it will be interpreted accordingly in the following.
- 3 The subject matter of present claim 1 lacks an inventive step w.r.t. D1 in combination with D2.
- * Document D1, which is considered to represent the closest prior art, discloses all the features of claim 1 (see above citations) except for the following:
- "determining if one or more corrective processes can be beneficially applied according to said characteristics; and applying any such corrective processes" (properly understood as stated in paragraph 2 above).

Instead, the system of D1 lets the image characteristics influence the parameters to be used during further processing, but it does not determine whether specific processes as a whole would be beneficial while others would fail to be so, and it does not apply only the beneficial ones.

The technical effect of the claimed features is to further speed up processing through improved control of (because only beneficial processes have to be applied.)

A person of ordinary skill in the applicable art (an engineer having a degree of a university or an engineering school and possessing special knowledge in the field red-eye image processing), knowing D1 and faced with the cited technical problem at the date relevant for the present application, would be prompted to consult the pertinent technical literature and thereby find red-eye correction document D2 which teaches in Fig. 2, paragraphs [0069-0089] that an image defect prediction process block is in control which correction effects to activate according to the need for improving certain defects, i.e. according to how beneficial they are for improving image quality. The overall speeding up through selective activation of processes is detailed in i.a. paragraph [0013] of D2.

Thereby being made aware of these advantages of the solution of D2 and having regard to the technical problem to be solved, the skilled person would wish to combine the approach of D1 with the teaching of D2, in particular its selective activation of image processes and red-eye detection processes. Thereby the skilled person would arrive at the claimed subject matter within the framework of the technical routine work associated with the normal progress of technology. The subject matter thus lacks an inventive step.

- 4 The same objections apply to the subject matter of claim 2 for corresponding reasons, since both D1 and D2 use the control data for controlling both the red eye detection and the image correction.
- 5 The foregoing analysis also remains valid for all other dependent claims 3-26 whose subject matter thus also lack an inventive step.
- 6 The subject matter of independent claims 27,51,52 lacks novelty w.r.t. D1 which teaches influencing the parameters of red-eye filters in accordance with image features, cf. again the cited passages and in particular, D1, paragraphs [0057,0059,0082-0093].
- 7 Lack of novelty arises for the same reasons also for claims 29, 33-45, 47-49.
- 8 Moreover, the analysis given for claim 1 also applies mutatis mutandis to independent claims 27,51,52 and to all claims 28-50 dependent on claim 27. The subject matter of these claims thus - in so far as it is not already lacking novelty w.r.t. D1 alone (see before) - lacks an inventive step w.r.t. D1+D2 for the reasons cited w.r.t. claim 1. In principle this objection applies to all claims 27-52 but in particular to the remaining claims, 28,30-32,46,50.
- 9 In addition to the foregoing analysis it is also briefly noted w.r.t. claim 27,51,52 that their subject matter could actually also be read on image feature extraction and the subsequent use of these features for taking decisions in an algorithm consisting of various red-eye detection filtering substeps. This is common in red-eye detection in general, for an example cf. D3 Fig. 1. In D3 image features determine which

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processing route is eventually taken in a red-eye detection algorithm, i.e. which "red-eye subfilters" eventually will get employed. The subject matter of claims 27,51 and 52 thus lacks novelty also w.r.t. such general prior art.